

**ABSTRACT**

The system and method described herein facilitate back-to-back automatic scanning of moving vehicles without have the vehicles stop in the scanning zone. The system includes a scanning zone that comprises a radiation source and a radiation source detector. The system further includes a first sensor component for automatically sensing when a first portion of the moving target has passed through the scanning zone and a second portion of the moving target is about to enter the scanning zone, wherein the first sensor component sends a signal to the automated target inspection system to initiate a scan of the second portion upon sensing that the second portion of the target is about to enter the scanning zone. Additionally, a shutter, triggered by a signal from the first sensor component, allows radiation from the radiation source to pass through the scanning zone in the direction of the radiation detector when the second portion of the moving target is passing through the scanning zone and closes off the radiation when the second portion of the moving target is no longer within the scanning zone.